

Section 1014 – Transportation Technician Qualification Program

1014.1 General

The purpose of the Transportation Technician Qualification Program (TTQP) is to ensure quality sampling, testing and inspection during highway construction through the qualification of industry and department personnel. The Construction and Materials Quality Assurance Section administer UDOT's qualification program.

Through a cooperative program of training, study and examination, technicians will be able to better ensure satisfactory materials control, identification of poor quality materials, and proper documentation. This program will allow the department to ensure that all tests performed on materials for acceptance are performed in accordance with the specified test procedures by qualified technicians.

1014.1.1 Definition of Qualification (Qualified)

Within the context of this guide and program the term *Qualification* is defined as the end product for someone who has successfully met the requirements, as defined elsewhere in the guide, in one of the technical areas in which UDOT offers such credentials. These are credentials as defined by UDOT and establish that the recipient has demonstrated a required level of knowledge and is eligible to perform work on certain transportation projects under the jurisdiction of UDOT and/or others that utilize this program. This definition does not in any way suggest an affiliation with any national or other organization to provide for similar credentials, in any like areas to those that are included in the UDOT TTQP / IQP Program.

1014.2 Transportation Technician Qualification Program

1014.2.1 Testing Technician Training

All persons performing sampling and testing for a UDOT project must be trained in the respective areas of testing. Training provides a basic understanding and knowledge of sampling and testing procedures. Technicians must also be familiar with the equipment that is required for testing and how to operate it correctly.

Prior to qualification, all technicians are to receive training under the direction of UDOT qualified lab supervisors or senior technicians.

Minimum hours:

- 80 hours required for AgTT, AsTT, CTT, and SRDTT
- 120 hours required for EbTT/DTT, LbTT, CSTT

Documentation of training required for qualification registration.

The On-the-Job Training (OJT) program, as outlined in 1014.2.2, has been developed as one method to satisfy the training requirement. An OJT technician is considered to be performing testing under the Supervisor /Trainer's Qualification.

1014.2.2 On-the-Job Training (OJT)

1. The technician applies to the OJT program. On-line registration:
<http://www2.udot.utah.gov/index.php/m=c/tid=979>. The application includes the following:
 - a. Personal information (name, address, phone, identification number)
 - b. The area(s) the technician is pursuing as per 1014.2.5.
 - c. A commitment from the supervisor/trainer to support and train the technician.
 - d. The name and UDOT qualification number of the supervisor/trainer
2. The application is submitted to the Quality Assurance Section (QAS) for acceptance based on the following:
 - a. Commitment of the supervisor
 - b. Presence of required information
3. After the application is accepted:
 - a. The technician and supervisor will receive notification of acceptance
 - b. The technician will receive a manual for each qualification area
 - c. The technician's name is entered into the OJT database
 - d. The enrollment is free and valid for one calendar year (a \$10.00 fee will be assessed for a second application. A \$50.00 fee will be assessed for a third application)
4. The technician begins supervised OJT.
 - a. The technician may perform acceptance testing in any area listed on the application. (Technicians not on the list may not be used for project acceptance.)
 - b. When the OJT technician has demonstrated proficiency to the supervisor/trainers satisfaction, the OJT technician may perform testing independently.
 - c. The technician must sign the test reports
 - d. The qualified supervisor/trainer also signs the test report, in so doing, verifies the tests were performed correctly.
5. The supervisor documents the training hours provided on the technician's "Technician Training and Evaluation Form" (1014.4).
 - a. Minimum hours:
 - i. 80 hours required for AgTT, AsTT, CTT, and SRD TT.
 - ii. 120 hours required for EbTT/DTT, LbTT, CSTT
 - b. Completed form submitted to the Quality Assurance Section
 - c. A copy of the form will be kept on file by the employee's supervisor
6. The technician schedules and attends qualification
 - a. Must be scheduled within one year of beginning OJT
 - b. Original documentation of training covers the first qualification attempt.
 - c. Additional training is required for subsequent attempts. Additional training minimum hours:
 - i. 80 hours required for AgTT, AsTT, CTT, and SRD TT.
 - ii. 120 hours required for EbTT/DTT, LbTT, CSTT

The qualifications are administered as outlined in the TTQP Registration, Policy and Information Handbook: <http://www2.udot.utah.gov/index.php/m=c/tid=416>

1014.2.3 Testing Technician Qualification

The Quality Assurance program requires individuals who perform Verification, Acceptance and Independent Assurance sampling and testing functions for the agency, contractor, vendor, or private labs be qualified under the UDOT TTQP. Qualifications for Quality Control personnel are not required, however, for Quality Control information to be used in dispute resolution the technicians must be qualified. UDOT TTQP has developed specialized qualification modules utilizing in part the Western Alliance for Quality Transportation Construction (WAQTC) qualification program. Detailed information on training requirements, course outlines and required prerequisites is contained in the UDOT *Registration, Policies, and Information Handbook*. For a copy <http://www2.udot.utah.gov/index.php/m=c/tid=416> or contact the UDOT Quality Assurance Section.

The Quality Assurance Section administers the TTQP program:

1. Qualification is tracked through the Quality Assurance database.
2. The qualified technician is included in the UDOT Independent Assurance Program (Section 1012)
3. Qualification is valid for 3 years subject to:
 - a. Revocation, Suspension or Denial of Qualification (Section 1014.2.9)
 - b. Independent Assurance requirements
 - i. Failure to participate in Independent Assurance will result in forfeiture of the subject Qualification.
 - ii. See MOI Section 8-1012 for IA requirements
4. The technician is not qualified to perform any tests for acceptance if the qualification has lapsed.

Technicians are only qualified to run materials tests that coincide with the level of qualification they possess. The Resident Engineer is responsible for verifying each technician's level of qualification to ensure that qualified personnel perform all acceptance tests.

1014.2.4 Supervisor Qualification

Lead technicians that directly supervise testing personnel must have a minimum of 3-years experience in testing highway construction materials and be qualified for the same levels of UDOT TTQP qualifications as their direct reports. It is the responsibility of the Resident Engineer to verify the materials testing supervisor meets the minimum qualifications.

1014.2.5 TTQP Qualifications for Materials Testing

Levels of qualification available.

- WAQTC Aggregate Testing Technician (AgTT)
- WAQTC Asphalt Testing Technician (AsTT)
- WAQTC Concrete Testing Technician (CTT)
- WAQTC Embankment and Base/Density Testing Technician (EBTT/DTT)
- TTQP Laboratory Testing Technician (LbTT)
- TTQP Concrete Strength Testing Technician (CSTT)
- TTQP Sampling and Reduction Testing Technician (SRTT)

- TTQP Sampling, Reduction and Density Testing Technician (SRDTT)
- TTQP Superpave Mix Design (SMD)

ACI Concrete Field Testing Grade One Qualification and *ACI Concrete Strength Testing Technician* may be utilized as the basis for CTT and CSTT qualifications respectively. A TTQP Qualification will be issued upon receipt of a copy of ACI qualifications and a completed “Rights and Responsibilities” form. This qualification is subject to the requirements outlined in 1014.2.3.

1014.2.6 Examinations

Qualification is obtained by successful completion of written and performance examinations established for the individual qualification as outlined in the *UDOT Registration, Policy and Information Handbook*.

1014.2.7 Qualification Documentation

Upon the successful completion of the examination(s), the participant’s name, qualification number and company affiliation will be registered in the UDOT TTQP database. The Quality Assurance Section will be responsible for maintaining documentation of all individuals qualified under the UDOT Transportation Technician Qualification Program. Documentation retention will be for the life of the qualification.

Documents retained:

- Signed Rights and Responsibilities Agreement
- Written examinations.
- Performance Exam Checklists

1014.2.8 Qualification Renewal

Qualified technicians are responsible for applying for re-qualification before the expiration date of the current qualification. The procedure for Qualification renewal is the same as for initial Qualification.

1014.2.9 Revocation, Suspension or Denial of Qualification

The Utah Department of Transportation (UDOT) Transportation Technician Qualification Program (TTQP) is intended to assure qualified personnel performing all materials testing on UDOT construction projects. Overall guidelines for qualification and disqualification have been adopted from the WAQTC Administrative manual.

The UDOT Qualification Committee (UQC) of the TTQP may revoke Qualifications it has awarded at any time for just cause. Revocation or suspension in one Qualification area will be considered revocation or suspension in all Qualification areas and will be in effect in all member Agencies of the WAQTC.

The process for revocation, suspension or denial starts with a written complaint to the UQC chairman. This document must, at minimum contain: technicians involved, date of the incident, accounting of the incident, name and contact information of individual submitting the request.

The UQC reserves the right to start an investigation based on other information, if necessary.

Upon receipt of the complaint the UQC chairman will contact the individual(s) submitting the information. The chairman will determine if the individual would be willing to address the committee and answer any pertinent questions. Documentation submitted for UQC review is otherwise confidential.

The UQC will review the documentation/information within 30 days to determine whether further investigation is required. If so, the UQC will assign an investigator to perform the investigation. The UQC will review the information obtained through the investigation and may conduct additional interviews. The technician involved will be notified of the UQC's findings. The technician shall have 15 working days to respond, in writing. At any point in the process the UQC may determine, due to insufficient evidence, to discontinue the process.

The UQC will then determine whether the violation falls under the definition of *Negligence* or *Abuse*.

Negligence is defined as unintentional deviations from approved procedures or the unintentional failure to follow the requirements of the TTQP Program.

Abuse is defined as intentional deviations from approved procedures or the intentional failure to follow the requirements of the TTQP Program.

The appropriate process will be followed upon determination of the category of the violation.

1014.2.9.1 Process for *Negligence*:

Negligence should be resolved in a positive fashion that promotes learning and increased understanding. The complaint process tracks technicians who have repeated incidents of *negligence*. This process will also allow a means of tracking common problems and issues.

A single incident of *negligence* may be resolved through intervention by the Region Independent Assurance Inspector (IAI). The IAI will supply clarification to the technician on proper sampling and testing techniques per the Quality Assurance Manual. Documentation of each incident shall be sent to the UQC. The UQC will maintain records of each incident. If only one report, of a minor nature, is received in a one-year period, no further action may be taken. However, if it is determined that the *negligence* is significant the requirements under "second incident" will be followed.

If a second incidence of *negligence* is reported within a one-year period, the UQC will require the technician and his/her employer develop a corrective action plan. The UQC will notify all the Region IAI's. This notification is intended to make the IAI's aware of the problems being encountered.

If a third incident of *negligence* is reported within a two-year period, the technician and his/her employer will receive notice of a minimum thirty-day suspension. The technician and his/her employer will be responsible for providing a plan to correct the deficiencies to ensure no further incidents occur.

Another reported and verified incidence of *negligence*, within one year of suspension, shall result in a minimum 180-day suspension of the technician's qualification. The UQC may require the technician to attend additional training and re-qualify before reinstatement.

Any further incidents of *negligence* could result in permanent revocation.

The UQC could at any point re-classify repeated instances of *negligence*, as *abuse*. If this occurs, the issue would be dealt with through the process for *abuse*.

1014.2.9.2 Process for Abuse:

The UQC will determine the severity of the *abuse*.

The first finding of abuse will result in a one-year suspension to permanent revocation of an individual's qualification. Any subsequent finding of abuse will result in permanent revocation of Qualification.

Revocations or suspensions for *abuse or negligence* in one Qualification area will be considered revocations or suspensions in all Qualifications held by the technician. Such revocations or suspensions will be in effect in all member Agencies of the WAQTC.

Revocations, suspensions, or denials will be sent to the individual in writing along with the individual's right to appeal. A proposed revocation or suspension is effective upon receipt by the technician and will be affirmed, modified, or vacated following any appeal.

The UQC should also be aware that both State and Federal laws may govern construction projects, including Title 18, United States Code, Section 1020, that in brief states that anyone making falsifications on Federal-aid projects: "Shall be fined not more than \$10,000 or imprisoned not more than five years, or both."

The UDOT Qualification Committee Members:

Engineer for Materials
Quality Assurance Engineer
Region Independent Assurance Inspector
Region Independent Assurance Inspector
TTQP Coordinator

Committee membership to rotate among Region IAI's

1014.2.10 Out-of State Reciprocity

Reciprocal qualification for a WAQTC Qualification obtained in another WAQTC member state is done on a case-by-case basis. Refer to WAQTC "Registration, Policies, and Information Handbook" for information concerning reciprocity among member states.

1014.3 Inspector Qualification Program (IQP)

1014.3.1 Purpose of the UDOT IQP

The purpose of this Inspectors Qualification Program (IQP) is to improve the quality of highways and bridges through the improved work performance of personnel involved with the construction project and by verifying that essential knowledge and skills are possessed by those who monitor, inspect and control construction operations. One means of accomplishing this is by ensuring that the individuals have demonstrated, at an acceptable level of performance, the ability to inspect and document a specific item of work for the Utah Department of Transportation (UDOT). The IQP uses several Training and Qualification courses to help achieve the objectives of this program.

1014.3.2 UDOT IQP Objectives and Benefits

- To provide highly skilled, knowledgeable inspectors
- To promote uniformity and consistency in inspection statewide
- To provide personnel with opportunities for professional growth and advancement, based on proven knowledge, skills and performance
- To create a harmonious working atmosphere between public and private employees based upon trust, open communication, and equality of qualification
- To aid in dispute resolution

In addition, the following groups will benefit:

- Individual participants' skills and abilities will be recognized formally, and this will help provide increased professional growth opportunities, greater confidence and job satisfaction, and expanded performance-based promotion opportunities. UDOT will be able to verify employee's capabilities and qualifications and standardize measures of performance and tools for supporting employee development.
- The highway construction industry will have a better qualified workforce and the means for improving industry performance standards. Additionally, as regional IQP initiatives develop and reciprocal qualification and training standards are adopted, time and money will be saved because qualified technicians will be able to operate across state boundaries without having to be retrained and recertified.
- And, very importantly, the traveling public will benefit from the investment in a training and qualification program by being provided a higher quality pavement. In addition, the public's confidence in their state and local transportation agencies and construction industry may increase due to the improved quality of the roadway system.

1014.3.3 UDOT Inspection Qualification Committee

The UDOT Inspection Qualification Committee (IQC) is a recommended Agency level committee that is responsible for the oversight of the IQP within UDOT to ensure statewide consistency in the implementation of the program. The Chairman of the committee is a UDOT employee. The type, size, and makeup of the committee are at UDOT's discretion. Members of

the IQC are knowledgeable in the administrative procedures of the IQP. The IQC will review, compile, and maintain comments obtained from course evaluations, will hear and act on allegations of inspectors misconduct, or other such matters required for the efficient operation of the program within UDOT.

1014.3.4 Who must be Qualified?

All UDOT and Consultant technicians, Contractor's and Subcontractor's personnel, and any other person performing inspection duties on a UDOT owned project, must be UDOT qualified in any inspection items in which qualifications are offered. Qualification may be granted only after successfully completing the requirements of this program. "Grandfathering" or "exceptions" to the UDOT IQP will not be granted.

1014.3.5 Disclaimers

Qualification of an individual by the UDOT / IQP indicates only that the individual has demonstrated a certain level of competence on a written and/or performance examination in a selected field of activity. Each individual or organization utilizing qualified individuals must make its own independent judgments of the overall competence of the qualified individuals. UDOT specifically disclaims any responsibility for the actions, or the failure to act, of individuals who have been qualified through the UDOT / IQP.

1014.3.6 Candidates With Disabilities

Persons with disabilities and those who have special needs should notify the UDOT IQP representatives at the time of registration so that appropriate accommodations can be made.

1014.3.7 Inspection Qualification Program (IQP) Qualification Courses

Hot Mix Asphalt (HMA) Inspection
Portland Cement Concrete (PCC) Inspection
Drainage Inspection
Electrical Inspection
Bridge Structure Inspection
Excavation and Embankment Inspection
Construction Inspection Documentation

1014.3.8 Qualification Process

A technician may become qualified by either of the following two methods:

Method I

- Meet any applicable prerequisites for obtaining the Qualification.
- Forward the registration form, Rights and Responsibilities Agreement, documentation of applicable prerequisites, and the application fee to UDOT (according to the IQP's specific guidelines) to secure a position in an upcoming course and examination.
- Attend the appropriate Qualification course in its entirety.

- Successfully pass the written and performance examination.

Method II

If a person is confident of their knowledge and experience in a Qualification subject area he/she may become Qualified in that area, without attending a Qualification course, upon successfully completing the written and performance examination requirements as defined under each Qualification section. This alternate method of obtaining Qualification is subject to the limitations set forth elsewhere in this document. The Qualification process is:

- Meet applicable prerequisites for obtaining the Qualification.
- Forward the registration form, Rights and Responsibilities Agreement, documentation of applicable prerequisites, and any application fees to UDOT to secure a position in an upcoming examination
- Successfully pass the written and performance examination.

If a person chooses to become qualified without attending the qualification course (Method II), and does not successfully pass the written and performance examination, that person will be required to become qualified under Method I guidelines.

1014.4 Technician Training and Evaluation Form**UDOT/TTQP On-the-Job Training Report**

Employee Name _____ Dept. / Region _____

Date Enrolled in On-The Job Training Program _____

Qualification Area _____

Supervisor / Trainer Name _____

Supervisor / Trainer Qualification # _____

Date / Week Ending	Hours/Location	Comments:

I hereby authorize and verify the above OJT hours are true and correct.

Employee

Date

I hereby authorize and verify the above OJT hours are true and correct.

Supervisor/Trainer

Date

80 hours required for AgTT, AsTT, CTT, and SRD TT. 120 hours required for EbTT/DTT, LbTT, CSTT.
Radiological Safety Training/Certification is required for SRD TT and EbTT/DTT.
Documentation of training hours required prior to registration for Qualification exam.